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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,026	03/31/2004	Lysander Lim	23119.8	6263
27683	7590	07/01/2005	EXAMINER	
HAYNES AND BOONE, LLP 901 MAIN STREET, SUITE 3100 DALLAS, TX 75202			LE, DINH THANH	
			ART UNIT	PAPER NUMBER
			2816	

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

21

Office Action Summary	Application No.	Applicant(s)	
	10/814,026	LYSANDER AUSTIN	
	Examiner	Art Unit	
	DINH T. LE	2816	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-45 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/31/04</u> . | 6) <input type="checkbox"/> Other: ____ |

Art Unit: 2816

DETAILED ACTION

Specification

The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections

Claim Rejections - 35 USC § 112

Claims 1-45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Correction or clarification is required.

In claims 1, 11, 21, 31, 41 and 42, i.e., the recitation "the frequency and phase" on line 10 lacks clear antecedent basis. The recitation "charge" on line 6 is confusing because it is unclear if this is additional "charge" or further recitation of the previously claimed "charge" on line 4. The same is true for reciting "charge" in claims 2-3, 12-13, 23-24 and 32-33.

In claim 6, it is unclear how the switched capacitor can be "disabled" since no means for performing the disabling function is recited in the claim. The same is true for claims 12, 26 and 36.

In claim 23, it is unclear how the oscillator can be "decoupled" since no means for performing the decoupling function is recited in the claim.

Art Unit: 2816

In claim 31, it is not understood what the “components” on line 3 are. The description is incomplete because the “substrate” on line 3 is not connected to anything. Thus, the claimed substrate may not perform the recited function.

The remaining claims are dependent from the above claims and therefore also considered indefinite.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 6-11, 17-20 and 41-45 are rejected under 35 USC 102 (e) as being anticipated by Lee et al (US 6,61,160).

Lee et al discloses in Figures 1-2 a PLL circuit comprising:

- a controlled oscillator (VCO, Figure 1),
- a phase detector (Figure 1) that detects a phase difference between an output signal of the controlled oscillator (VCO_{in}) and a reference signal (REF),
- a charge pump²⁰², Figure 2), coupled to the phase detector, that pumps charge at first and second charge pump outputs (270, 272),
- a direct path loop filter (282, 284, 286), coupled to the first charge pump output (270) and the controlled oscillator, and
- an integrating path loop filter (290, 292, 294), coupled to the second charge pump output (272) and the controlled oscillator,
- wherein the integrating path loop filter having substantially the same topology as the

Art Unit: 2816

direct path loop filter, see lines 17-25, column 6), the direct path loop filter and the integrating path loop filter providing a signal to the controlled oscillator to control the frequency and phase of the output signal of the controlled oscillator.

- With regard to claim 18, the amplifier (28) combines two input signal (270, 270) into one output signal (296)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-5 and 12-16 are rejected under 35 USC 103(a) as being unpatentable over Lee et al (US 6,611,160) in view of Maldonado (US 6,819,197).

Lee et al discloses in Figures 1-2 a PLL circuit with all of the limitations of the claimed invention as stated above but does not disclose that the filters are the switched capacitor filter so that the filters are selectively decoupled to the VCO. Maldonado suggests in Figure 1B and 2A a switched capacitor filter comprising capacitors (C11, C21) coupled to a switch (S1) for selectively activating the filter, see lines 1-23, column 5. It would have been obvious to a person having skill in the art at the time the invention was made to employ the switch as suggested by Maldonado in the filter of Lee et al for the purpose of selectively activating the filter to provide a multimode operation.

Art Unit: 2816

Claims 21-40 are rejected under 35 USC 103 (a) as being unpatentable over Lee et al (US 6,781,424) in view of Lee et al (US 6,61,160) and further in view of Maldonado (US 6,819,197).

Lee et al ('424) et al discloses in Figures 7-8 a single chip transceiver circuit comprising a PLL (730) coupled to a mixer (720A, 720B) and the PLL (730) which has a charge pump (736) and a low pass filter (738) but does not disclose that the low pass filter circuit comprises a first and second filters as combined in claims 21 and the filters are the switched capacitor filters so the filters can be selectable to decouple to the VCO as recited in claims 22-26 and 32-36. Lee et al ('160) teaches a PLL circuit comprising the first and second filters as stated above for reducing switching noise with less power consumption, see lines 18-28, column 2. It would have been obvious to a person having skill in the art at the time the invention was made to incorporate the PLL suggested by Lee et al ('160) in the circuit of Lee et al ('424) for the purpose of reducing switching noise with less power consumption.

Maldonado suggests in Figure 1B and 2A a switched capacitor filter comprising capacitors (C11, C21) coupled to a switch (S1) for selectively activating the filter, see lines 1-23, column 5. It would have been obvious to a person having skill in the art at the time the invention was made to employ the switch as suggested by Maldonado in the filter of Lee et al ('160) for the purpose of selectively activating the filter to provide a multimode operation.

Conclusion

Art Unit: 2816

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DINH T. LE whose telephone number is (571) 272-1745. The examiner can normally be reached on Monday-Friday (8AM-7PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIMOTHY CALLAHAN can be reached at (571) 272-1740.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Dinh Le', with a long horizontal flourish extending to the right.

DINH LE
Primary Examiner